

STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

128-10th Avenue SW • P.O. Box 42525 • Olympia, Washington 98504-2525 (360) 725-2966 • fax (360) 586-9383 • e-mail sbcc@cted.wa.gov • www.sbcc.wa.gov

MINUTES PRIVATE RESIDENTIAL FIRE SPRINKLER SYSTEMS TECHNICAL ADVISORY GROUP

Date: August 19, 2008

Location: Washington PUD Association, Olympia

<u>Private Residential Fire Sprinkler Systems TAG Members Present</u>: John Neff, Chair; Jerry Benner; John Cochran; Chuck Duffy; Ted Hardiman; Joe Herr; Jim Hudson; Scott Kramer; Marc Marcantonio; Mac McDowell; Darrin Parsons; Greg Rogers; Stuart Turner

Other Council Members Present: Pat McBride

<u>Private Residential Fire Sprinkler Systems TAG Members Absent</u>: Stan Amas, Dick Bower, John Chelminiak, Don Davidson, Ron Greenman, John Kounts, John Norris, Doug Quinn

Visitors Present:

Linda Harris, Joe Eltrich, Ethan Moreno, Jared Moravec, Paul O'Connor, Brian Minnich, Jeffery Iacchei, Suzette Cooper

Staff Present: Tim Nogler, Sue Mathers

CALL TO ORDER

Chairman Neff called the meeting to order at 9 a.m. John welcomed everyone. Introductions were made.

REVIEW AND APPROVE AGENDA

The agenda was reviewed. Tim added "Survey Update" under "Other Business." With that addition, the agenda was approved as amended.

REVIEW AND APPROVE MINUTES

Marc Marcantonio clarified his statement on page 16, by saying his mutual water company charges a one-time \$250 residential hookup fee <u>for sprinkler connections</u>. There is no extra annual <u>or monthly</u> fee. It doesn't matter whether or not there's a fire sprinkler system in the residence. The residential <u>monthly/bimonthly</u> charge is based on the size of the meter requested.

Pat McBride suggested adding the statement on page 17, "Water system limitations may be a barrier."

With those two corrections, the minutes were approved as amended.

REVIEW BARRIERS DOCUMENT

Tim said the Voluntary Residential Fire Sprinkler Systems Barriers draft document is based on discussion of Doug Quinn's document at the last TAG meeting. Sixteen barriers identified by Doug are consolidated in the August 19 draft into seven barriers. Tim said most, if not all, of Doug's original barriers are present in the draft document in a reorganized format.

Barrier #1

Pat McBride, representing homebuilders, suggested that Barrier #1, Lack of Education, includes education of what the current level of fire protection is in a given jurisdiction. John Neff asked for confirmation that Pat would include that under paragraph #3, Perception. Pat agreed. Jim Hudson, representing the Department of Health, said he sees that suggestion as encouraging the decline of fire district service. He asked if that's Pat's intent. Pat McBride said he wasn't viewing it that way. His suggestion is based on testimony received by the State Building Code Council in justification of fire sprinkler systems, such as their fire service is voluntary, they're unable to reach certain portions of the jurisdiction, growth and density make response times too lengthy. Jim Hudson said he was looking at incentives to offer the Legislature, such as reducing the funding mechanisms of fire districts.

Jerry Benner, representing building inspectors, suggested making Solution #3 more positive. He recommended substituting "benefit" for "risk" in the sentence, "The packet should include information on the benefit associated with non-sprinklered single family homes."

Mac McDowell, representing the Washington State Association of Counties, said DCVA should be specifically explained in paragraph #2, Protection of Water Quality. Noting the statement under Perception, "It is unclear what the statistical breakdown of lives saved between hardwired alarm systems...," Mac suggested that the maintenance of such records should be added under Actions. Chuck Duffy, representing the State Fire Marshal's Office, agreed that data may be lacking in some cases. He said it's a perennial challenge getting all fire districts in the state to submit national fire incident reports. While there's a statutory requirement to complete them, there's no penalty for not doing so. Another problem is that a consistent group of people isn't always available to review the reports. Personal interpretation may come into play. Chuck said a statistical breakdown of lives saved by hardwired alarm systems, hardwired alarms tied to central systems and battery-powered smoke alarm systems isn't available through the national fire incident reporting system. He thanked Mac for his thoughts. He said he'll pass Mac's suggestion forward.

Mac said he's not sure of placement under Cost or Perception, but it should be stated that "Other things that cost less work just as well." He doesn't feel there'll be acceptance of the voluntary installation of fire sprinkler systems until that barrier is crossed.

Tim suggested modifying Action Item #5 to "evaluate the method of data collection." **Greg Rogers, representing the Washington State Association of Fire Marshals,** suggested modifying #5 to "evaluate and improve life safety statistics throughout the state." He said the Legislature may wish to modify some statutes about state fire reports, such as requiring different components. In addition, grants received through the federal Fire Safety Grant Program are tied to filing NFIRS reports. The state may consider something similar, such as mandating complete fire reports from fire departments to receive state funding.

Pat McBride pointed out that a barrier discussed earlier but not identified in the draft document is the fact that fire reporting data doesn't include the age of structures in which fire deaths occur. **Greg Rogers,** while not adamantly opposed, said that fact has to be tempered by not having a concrete definition of "old." **Mac McDowell** suggested simply stating the age of structures, instead of whether they're "new" or "old."

Chuck Duffy cautioned that the level of detail the TAG wants fire statistics to show, while it may not be impossible, is exceedingly difficult given the variety of different fire-reporting jurisdictions throughout the state. He said Greg's suggestion to tie mandates to funding will likely be a policy decision of the Fire Protection Policy Board.

John Neff said if Greg Rogers' earlier suggestion to modify Action Item #5 to "evaluate and improve life safety statistics throughout the state" occurs, partners will discuss the above issues. Pat McBride said he prefers adding ", including the age of structures," after "statistics." Jim Hudson asked Pat if his concern has to do with the age of wiring. Pat McBride said NFPA statistics show that the number of fire deaths is nationally decreasing despite an increase in the number of homes being built. Pat said why that's

happening should be part of this discussion. He believes it has to do with the quality of home construction and smoke detectors, among other things. **Jim Hudson** said different types of construction might be more germane than age of structures.

Greg Rogers suggested deleting "by citizens" in the first sentence under Concerns. He said the lack of education and awareness applies to everyone. Also suggested by Greg was moving the following from Barrier #1 to Barrier #2:

CONCERNS, PROTECTION OF WATER QUALITY Studies show that dead-ends on water systems increase the potential of contamination and that stagnant water will occur on a dead-end RFSS without frequent flushing. Most water systems are designed with looped piping to limit this exposure.

SOLUTIONS, Actions

4) Provide guidance documents and construction recommendations to water purveyors throughout the state and at all levels, including Class A, Class B and private well systems.

It was agreed that Barrier #2 is a more appropriate location.

Stuart Turner, representing Washington Association of Sewer and Water Districts, said Barrier #1, Protection of Water Quality, is more a design guideline than a lack of education. He doesn't see double-check valves as being an education issue. Barrier #2, Concerns, addresses double check valve assemblies, but it doesn't state their purpose as protecting water quality and preventing backflow. He recommended merging these barriers under a general subhearing such as Backflow Prevention under Barrier #2.

Jerry Benner asked why double-check valves are used in place of regular valves. He asked John Neff if double-check valves are much more expensive. **John Neff** answered no. He said double-check valves are typically used for backflow prevention. **Jim Hudson** said state law requires double-check valves when backflow prevention is required.

Greg Rogers suggested that "system" under Partners should be changed to "sprinkler."

John Neff agreed that's a good idea. Greg also suggested specifying funding from sprinkler contractor license fees collected by the State Fire Marshal's Office (SFMO).

Chuck Duffy said the SPL 415 Account currently authorizes public education, which his office conducts along with outreach to contractors. He asked if Greg proposes something beyond that. Greg said he proposes that the Legislature direct the SFMO to provide the funding to implement the solutions to this barrier. Chuck suggested that education be done under existing mandates and funding. He's concerned about creating double mandates. Paul O'Connor, representing the Sprinkler Advisory Board of Puget Sound, said it depends upon how the RCW is currently written whether it authorizes education to solve Barrier #1. He doesn't believe "education" is defined in the statute.

Mac McDowell asked where this document is going. **John Neff** answered that it's going from the Private Residential Fire Sprinkler Systems TAG to the State Building Code

Council for public hearings in September and October. After final revision and adoption in November, the Council will present it to the Legislature. **Mac** said he agrees with Pat about the importance of knowing the age of homes where fire deaths have occurred. **John Neff** said whether or not to include it in the report to the Legislature is something the Council will ultimately decide. **Tim** said Solutions 5) will be revised to add ", including the age of structures" after "statistics."

Brian Minnich, representing the Building Industry Association of Washington, said he would revise the first sentence under Concerns to read:

Significant limitations ((exist)) to the voluntary installation of a residential fire sprinkler system (RFSS) may be due to the lack of education and awareness. In the second sentence, Brian doesn't like the word "coaches." To perceived benefits under Perception of the Value of Residential Fire Sprinkler Systems, Brian objects to "to the property owner" in the first sentence. He said that should be broadened to definitely also include "builders" and perhaps "the general public." **Greg Rogers** suggested that simply deleting "to the property owner" and ending the sentence with "perceived benefits." would make it all-encompassing. He agreed that it should apply to everyone. **Pat** agreed that homebuilders should definitely be included because they decide what will go into the homes they build.

Barrier #2

Jerry Benner suggested inserting "designers" after "purveyors," in the first sentence under Concerns. **John Neff** suggested that the first sentence isn't appropriate anyway because lack of information was discussed in Barrier #1. He said the concern of Barrier #2 is the lack of a preferred design, because there's too much diversity between water purveyors, fire marshals and building officials.

John Cochran, representing architects, suggested changing "information" in the first sentence to "consistent criteria." Marc Marcantonio, representing mutual water companies, disagreed with the appropriateness of "consistent." He said one water purveyor's preferred design may differ from the preferred design of another water purveyor. John Cochran answered that's the point, why it's a barrier. Marc Marcantonio said every water company is different. What's right for his water company isn't right for another jurisdiction. However, Marc agreed that it's important to have a preferred design for sprinkler installations within his service area. Likewise it's important that other jurisdictions have a preferred design for their service areas. Pat McBride agreed with John that "consistent criteria" is good, because he said it changes the emphasis from hardware to what is trying to be accomplished. Greg Rogers suggested "consistent details and guidelines" instead of "consistent criteria." There was disagreement about Greg's suggestion.

John Neff said the previous discussion about this was to set a preferred standard, because of the diversity among purveyors and code officials. **Mac McDowell** suggested stating

the concern as the lack of a statewide standard, despite the fact that different water systems each have their preferred design.

Joe Herr suggested adding to Solution #2, "provide building code and local zoning trade-offs for sprinklers." He would like builders to be able to work with local jurisdictions on zoning and plat layout requirements. Greg Rogers agreed with Joe. He said it's important that local jurisdictions have flexibility to allow trade-offs in the face of State Building Code Council (SBCC) minimums. For example, he can't reduce egress window requirements because the minimum required width is set by the SBCC. Greg thinks many jurisdictions are hesitant about exceeding the state minimum by justified alternative means and methods because of possible liability. Greg said one barrier should be not allowing local jurisdictions to modify minimum code requirements as an incentive to voluntary sprinkler installation. Greg suggested that instead of building code trade-offs, Solution #2 should be International Residential Code (IRC) trade-offs for residential sprinkler systems. John Neff paraphrased Greg's comments, that not only should Solution #2 designate the IRC instead of the building code, but a Council TAG should develop IRC trade-offs. Greg agreed.

John Cochran suggested adding another Solution about trade-offs with other regulations. He said that would help jurisdictions that are reticent about amending minimum code requirements. **Joe Herr** agreed, saying that was his intent.

Pat McBride said there are multiple possible trade-offs that are valuable to homebuilders, such as sheet rocking vents and eaves, proximity to lot lines and other structures. He said DuPont is a good example of how trade-offs can work in a planned community.

Mac McDowell questioned "...reasonable application of meter costs..." in Solution #6. He said the definition of reasonable varies from one person to another. **Greg Rogers** and **John Cochran** both suggested striking "reasonable" from that sentence. **John Neff** agreed.

Greg Rogers suggested adding the SFMO as a lead agency, along with the SBCC.

Barrier #3

Joe Herr disagreed with the last line under Concerns, "The length of time for the homeowner to realize a return on investment is not clear." He said there is no return on investment for a fire sprinkler system. It's not like upgrading furnaces or adding insulation that can be quantified relative to energy use. The cost of installing a fire sprinkler system will never be recovered unless there is a fire. Insurance companies have said they'll never give enough of a homeowner's insurance discount to eventually recover the installation cost. Greg Rogers said one of the concerns voiced at a prior meeting was that cost recovery is such a small amount. He said cost recovery should be increased through such means as tax incentives, fire impact fees, or increasing insurance discounts. Solutions identified under Barrier #3 include such cost recovery. Greg suggested

modifying the sentence Joe disagrees with to read, "The length of time for the homeowner to have a cost recovery is not clear." That modification received consensus. **Stuart Turner** said homeowners of homes with sprinkler systems don't see a return on investment because the average homeowner only lives in his house for seven years. He said another consideration is if a sprinkler system adds to the resale value of a home.

Mac McDowell suggested that another incentive may be to credit the installation of fire sprinkler systems similar to the lower tax levy of large subdivisions that qualify as public benefit rating systems. **John Neff** suggested that may be identified under the Funding Source.

Jerry Benner disagreed with the last sentence under Fire Service Financial Incentive: Recognizing that a direct cost savings will result over time from the reduction in fire staffing levels, capital improvements, and needs for future equipment, incentives should be offered by redirecting funds to homeowners.

John Neff said that sentence is true for the voluntary installation of fire sprinkler systems, as happened in San Clemente, California. That jurisdiction was faced with the option of building new fire stations and buying new equipment, or sprinklering residences. Installing fire sprinkler systems saved lots of money. Chuck Duffy said 75 percent of all calls across the state are EMS, having nothing to do with fire suppression. He said the public demands that level of EMS response. Greg Rogers suggested rewording this sentence, because he said there should be ways to return funds to homeowners or builders: "Recognizing that direct cost savings will result over time, incentives should be offered by redirecting funds." Deleting "to homeowners," makes the sentence all-encompassing, including builders, who actually pay the fire impact fee. Jerry Benner said the builder passes his permit fees onto the homeowner. Therefore he said a reduced fire impact fee should be paid to the homeowner.

Mac McDowell suggested substituting "fire district" for "county" in Solution #3. **Greg Rogers** said deleting "county" is sufficient since a fire district is covered under local property tax. He said it would also include city jurisdictions that get money from local property taxes.

Greg Rogers told Tim that WSAFC under Partners changed their name to WFC during the past year.

Tim said included under Funding will be "public benefit rating system."

Greg Rogers suggested changing the title of Barrier #3 to "Cost and Cost Recovery of a Voluntary RFSS Installation," based on discussion at the last meeting.

Barrier #4

Jerry Benner said plan review and inspections include design and installation. He also said Solution #1 talks about "in the normal building permit." He said that's true only if the design is prescriptive. Jerry said the fire department will want to inspect residential fire sprinkler systems, like commercial fire systems, to ensure they work. Thus the "normal building permit process" through the building official isn't accurate. **Joe Herr** disagreed with the cost of the design being under the title, Cost for Permit and Inspection.

Barrier #5

Greg Rogers suggested changing "fire flow requirements" under Concerns to "the flow requirements" or "the sprinkler flow requirement." He said fire flow to the fire service means what flows out of the hydrant. Consensus was reached for "additional flow requirements." Greg's final suggestion was to add WFC under Partners.

There was discussion, without consensus, of funding source.

Barrier #6

Pat McBride said this barrier is also a Department of Health and building occupancy issue. **Mac McDowell** said that shut off may occur because of power failure. He said it's a bigger problem for small water systems in rural locations.

Barrier #7

John Neff said the City of Lacey water resource engineer is very opposed to this barrier, because there is not supposed to be "unaccounted for" water. **Marc Marcantonio** said the reality is that it exists due to design limitations on the equipment that measures water.

Greg Rogers suggested adding under Solutions #2 a statement differentiating between water used for firefighting operation versus water used for residential sprinkler flow. He said it will be important for the Legislature to differentiate between those water uses, 360 gallons versus 6-10,000 gallons. He thought such differentiation was the incentive behind giving water efficiency credits.

Marc Marcantonio, while agreeing with Greg, said the water saved from a residential sprinkler system, versus fighting fires through hydrants, isn't nearly as significant as water that's lost by installing larger meters. **Greg** said both are significant. **Marc** said the larger the meter, the less accurately it records water going through it. He said there's a tremendous difference between a 5/8 inch and a 3/4 inch meter. When the water use efficiency rule was adopted, many water purveyors were going to require residences to have 5/8 inch rather than 3/4 inch meters because of the difference in accurately measuring water. Marc said many water companies require proof of the need for a larger meter before they allow its installation.

Pat McBride asked Marc if the important thing in managing a water system is being paid for the water or the amount of water available to the system. Marc said the difference between the amount of water pumped and the amount of water sold that's measured through meters is what affects the system's water use efficiency. That difference is tracked because the water use efficiency rule mandates water losses below 10 percent. Water that goes through meters that isn't registered by the meter is lost water. Such losses negatively contribute to water use efficiency mandated by DOE. Marc said toilet leaks are currently the biggest reason for unaccountable water in a system. Pat asked what DOE does if a water system doesn't meet the 10 percent water use efficiency mandate. Marc said it may lower the status of the operating permit, which affects the ability of the water system to obtain low-cost loans. There's also added expense because the water system is supposed to implement measures to recover the lost water and prevent it from happening in the future.

Chuck Duffy asked if a new generation of meters will soon emerge that will more accurately measure water. **Marc** said he's sure technology will improve. In the meantime, however, most meters work on a positive displacement principle, with a wafer that wobbles back and forth. It was never intended to be 100 percent accurate. And the older meters are, the more water slips by them that's unmeasured.

John Cochran suggested that a new Barrier #7 Solution should be recognition of problems caused by the water efficiency rule at the state level and the need to refine it. **Marc** said that is the intent of this barrier. The water efficiency rule is an impediment to larger meters being installed for fire sprinkler systems.

Ethan Moreno suggested spelling out the acronym WUE in Solution #1, water use efficiency.

John Neff said today's changes will be incorporated into a final report to go to the SBCC, along with a narrative and all supporting data. The Council will meet in Spokane on September 12, to receive public input on the report. The Council will then modify, as needed, and adopt the report at its November meeting.

Stuart Turner asked what the legislative report will actually entail. **Tim** said it will consist of three parts and an appendix. The first part is an executive summary that will include the initiating legislation, a roster of the PRFSS TAG membership, a summary of presentations to the TAG and a list of the barriers. The second part will be the revised barriers document. The third part will be specific recommendations for legislative action. Finally the appendix chapter will be a bibliography of all supporting documentation that was submitted, the results of the survey and minutes of all TAG meetings. Tim agreed to e-mail the report outline to all TAG members.

Ethan Moreno asked, in an effort to reduce the volume of the report to the Legislature, that the bibliography of supporting data simply list everything submitted and say it's

"available upon request." **John Neff** asked that Council members receive full copies of all supporting documentation.

Greg Rogers suggested that the recommendations for legislative action would be the Solutions identified in the Barriers document. Tim agreed they will be based on those solutions.

By consensus, the September 9 TAG meeting was cancelled. It was agreed that Tim will e-mail TAG members the edited report, and TAG members will e-mail Tim and the entire group any additions or corrections. While the process may involve e-mailing the report several times, it will save everyone having to drive to Olympia for an in-person meeting.

John Neff said the work of the TAG is now complete, except for the e-mail exchange. He complimented members for their "unbelievably impressive" work. He said the TAG completed an "awesome" amount of work in a short period of time.

OTHER BUSINESS

Tim said constituent groups are being worked with to refine the electronic survey contents. Presently being tested, the survey will be distributed during the next couple of weeks.

ADJOURNMENT

Lacking further business, John Neff adjourned the meeting at 10:53 a.m.